

REMARKS

Claims 28-31 were examined in the Final Office Action mailed November 18, 2005, while claims 12-16 and 19 stand withdrawn pursuant to Election/Restriction Requirement.

Claims 28-31 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, in view of the claim language reciting a recess on an outside area next the axis of the crankshaft.

Claims 28 and 30-31 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 3,612,014 to Tenney ("Tenney"), in view of U.S. Patent No. 6,786,188B1 to Kawamoto ("Kawamoto").

Finally, claim 29 stands rejected under § 103(a) as unpatentable over Tenney and Kawamoto, in further view of U.S. Patent No. 6,354,251 B1 to Toda ("Toda").

The Applicants have carefully reviewed the Final Office Action, and respectfully submit the foregoing amendments and following remarks in response thereto.

1. The § 112 Rejection Is Rendered Moot By the Amendments.

The Applicants have amended the claims in a manner which eliminates the objected-to language and more clearly recites the arrangement of the claimed recess, without reference to an "outer area." Specifically, where claim 28 previous recited:

wherein each of the front and rear portions includes a recess on an outer area of the said portion near the axis of the crankshaft,

claim 28 now recites a two-stroke cycle engine:

wherein a crankcase scavenging passage is formed inside a wall in each of the front and rear crankcase portions symmetrically with respect to said crankcase separating plane, wherein a crankshaft bearing part in each front and rear portion is formed within a diameter of the cylinder such that said front and rear portion scavenging passages are formed above the crankshaft bearing part and lateral to the extended line of the diameter of the bearing part, wherein the scavenging passage has a top opening at a cylinder mounting surface and an outlet at the side of the crankcase with a microscopic gap between the opening and the end surface of the crank webs, wherein the scavenging passages of each of the front and rear portions are arranged to provide fluid communication between the scavenging passage of the cylinder and a crank chamber of the crankcase so as to allow a fuel-air mixture to flow from the crank chamber to the scavenging port, and wherein the cylinder is attached by fasteners to a mounting surface on the crankcase.

The Applicants thus have more clearly defined the scavenging passage arrangements. These arrangements are consistent with, for example, those shown in Figs. 28-31, where inside the wall on either side of the crankcase, two scavenging passages 109d are formed symmetrically with respect to the common surface 512. This feature permits a common die to be used to cast each of the passages and fewer dies need to be used overall. *Accord*, Specification at 34:1-6. Further, as shown in Figs. 29-30 in particular, it can be seen that the crank shaft bearing parts are formed *within* the cylinder diameter toward the cylinder axis 50 such that scavenging passages 109e are formed above the crank shaft bearing part, permitting the inclusion of the scavenging passages inside the crankcase wall without the need to make the crankcase wider. Finally, the amendments are consistent with the illustrated example, in which the scavenging passage has a top opening at a cylinder mounting surface 53 and an outlet 109b at the side of the crankcase with a microscopic gap between the opening and the end surface of

the crank webs, thus forming a disk valve with the crank web to control the velocity of the air forced in through the scavenging port and thereby reducing the quantity of fuel-air mixture which becomes trapped in the exhaust gas stream.

2. The Amended Claims Are Patentable Over The References.

The Applicants respectfully traverse the pending rejections under § 103(a) based on Tenney and Kawamoto, on the grounds that these references neither teach nor suggest all the features of the present invention recited in the amended claims.

Tenney discloses an engine which has its crankshaft bearings located *outside* the cylinder diameter, and its scavenging passages are formed directly above the crankshaft bearings. Tenney Fig. 4. This arrangement, is completely different from that of the present invention, fails to teach or suggest the amended claims' arrangements "wherein a crankshaft bearing part in each front and rear portion is formed *within a diameter of the cylinder* such that said front and rear portion scavenging passages are formed above the crankshaft bearing part and *lateral to* the extended line of the diameter of the bearing part."

For its part, the Kawamoto reference (cited for providing a recess on an outer portion near the crankshaft) shows a generator chamber 67 and a clutch chamber 68 outside of the crankshaft chamber portion of the engine. The Applicants respectfully submit this reference is no longer relevant, as the reference to a "recess" has been eliminated by the amendments, and Kawamoto does not teach or suggest any aspect of the amended claims' scavenging passage arrangements.

Because no combination of Tenney and Kawamoto suggests (or even if combined, would result in) scavenging passage arrangements wherein “a crankcase scavenging passage is formed inside a wall in each of the front and rear crankcase portions symmetrically with respect to said crankcase separating plane, wherein a crankshaft bearing part in each front and rear portion is formed within a diameter of the cylinder such that said front and rear portion scavenging passages are formed above the crankshaft bearing part and lateral to the extended line of the diameter of the bearing part, wherein the scavenging passage has a top opening at a cylinder mounting surface and an outlet at the side of the crankcase with a microscopic gap between the opening and the end surface of the crank webs, wherein the scavenging passages of each of the front and rear portions are arranged to provide fluid communication between the scavenging passage of the cylinder and a crank chamber of the crankcase,” claims 28 and 30-31 are patentable over these references under § 103(a).

Finally, as to the rejection of claim 29 (which depends from independent claim 28), the Toda reference is cited as teaching that it is old in the art to provide an air passage from an air cleaner to a scavenging passage inside a cylinder. This reference fails to teach or suggest any of the features recited in claim 28 which are not taught by Tenney and/or Kawamoto, and thus dependent claim 29 is allowable over the cited references by virtue of its dependency from allowable claim 28. Moreover, even as to the features for which it is cited, this reference does not teach or suggest the air supply chamber arrangements of amended claim 29. Toda illustrates nothing more than the supply of air through

passage 9 directly into scavenging passage 8. Toda Fig. 1. There is no suggestion in this reference of the claimed air passages, wherein “a downstream side of said air supply chamber is connected to *two branching air passages which are symmetric with respect to said crankcase separating plane* and wherein each of said branching air passages is connected to middle portions of the scavenging passage of the cylinder,” i.e., at an elevation higher than the crankcase. Toda therefore not only fails to cure the Tenney and Kawamoto deficiencies, it also fails to teach or suggest the additional features of dependent claim 29.

In view of the foregoing, the Applicants respectfully submit that no combination of Tenney, Kawamoto and/or Toda teaches or suggest all the features of the present invention recited in amended claims 28-31, and therefore these claims are patentable under § 103(a) over these references. Accordingly, reconsideration and withdrawal of the pending § 103(a) rejections is respectfully requested.

CONCLUSION

The Applicants respectfully submit that claims 28-31 are now in condition for allowance. Early and favorable consideration and issuance of a Notice of Allowance for these claims is respectfully requested.

If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

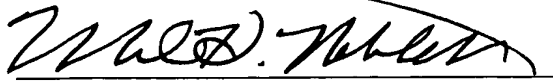
If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and

please charge any deficiency in fees or credit any overpayments to Deposit

Account No. 05-1323 (Docket # 037083.48851D4).

Respectfully submitted,

March 17, 2006

A handwritten signature in black ink, appearing to read "J. D. Evans", written over a horizontal line.

J. D. Evans
Registration No. 26,269
Mark H. Neblett
Registration No. 42,028

CROWELL & MORING, LLP
Intellectual Property Group
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844